Climate Change Work in Contra Costa

- Goals of Public Health Climate Change Working Group
  - Advocate for Health outcomes as recognized consequences of Climate Change impacts
  - Identify vulnerable communities in Contra Costa
  - Advocate for mitigation and adaptation measures that maximize health co-benefits
  - Advocate for prioritization of vulnerable communities in Climate Change mitigation and adaptation planning efforts

Co-Benefits of Climate Change Efforts

Reduce vehicle miles traveled	• Increase physical activity • Reduce chronic disease • Improve mental health
Reduce emissions through land use changes	• Increase local access to essential services • Enhance safety
Reduce residential building energy use	• Reduce household energy costs • Promote healthy homes • Create local green jobs
Urban greening	• Reduce temperature and urban heat island health effects • Reduce air pollution and noise
More sustainable local food systems	• Increase access to healthy, fresh foods • Reduce cardiovascular disease • Increase local social cohesion • Increase resilience

Attachment A

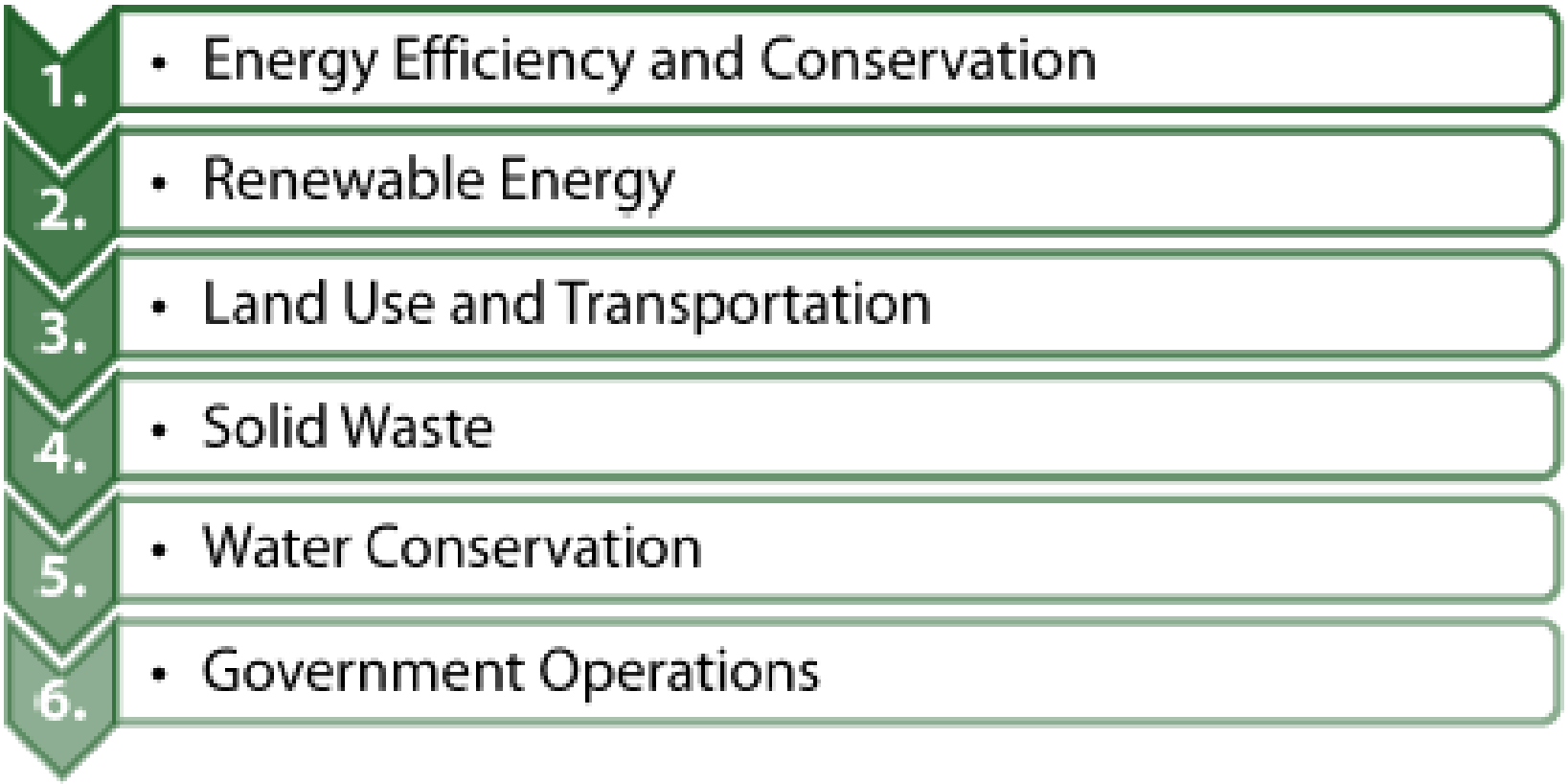
CONTRA COSTA COUNTY

CLIMATE ACTION PLAN

DRAFT - SEPTEMBER 2015

Los Vaqueros Reservoir, Contra Costa County

GHG Reduction Strategy



Health Co-benefit Methodology

Health Criteria

- Healthy Food
- Physical Activity
- Outdoor Air Quality
- Indoor Air Quality
- Improved Access
- Green Space
- Job Creation
- Climate Risk Adaptation
- Healthy Equity

Priority Outcomes

- Walking and Biking
- Public Transportation
- Infill Development
- Healthy Equity

Climate Change Quick Guides

GUIDE 01

Taking Action on Climate Change for Health

BARHII

Climate Change: What's Public Health Got to Do With It?

DEFINITIONS

Greenhouse Gases (GHG)
Gases which absorb infrared radition and trap its heat in the atmosphere. Both natural and industrial gases exhibit these greenhouse properties, like carbon dioxide and methane.

This is the first in a series of five Guides designed to help public health professionals understand:

Guide 01
Climate Change: What's Public Health Got to Do With It?

Guide 02
Health and Equity Co-Benefits of Addressing Climate Change

Guide 03
Climate Change and Health Equity

Guide 04
How Public Health can Address Climate Change

Guide 05
Getting Involved in Climate Change Action Planning

What is Climate Change?

Global warming refers to the rise in global average temperature near Earth's surface. It is one aspect of climate change, which refers to major changes in temperature, precipitation, or wind patterns that last for a long time. Human activities are
release of large amou
the atmosphere; burn
of greenhouse gases,
in the atmosphere.[1]

Why is Climate Cha

"Climate change is th
threatens the very sys
food, our shelter, and
with protecting and
responsibility and an
health impacts of clir
gas emissions, and to
and resilient in the fa
now will save lives, ir
health inequities. Gu
strategies to address

How does Climate

Climate change has
displacement due to
events become more
ozone levels associate
distribution of infect
impacts related to re
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health inequities that
will address the healt

GUIDE 02

Taking Action on Climate Change for Health

BARHII

Health and Equity Co-Benefits of Addressing Climate Change

DEFINITIONS

Health Co-benefits
The health benefits that result from strategies that are intended to address a non-health issue.

Mitigation
As related to climate change: reducing

Climate change **mitigation** and **readiness** measures are being implemented in land use, transportation, water, energy, waste, agriculture, and more. Many climate action strategies also have significant beneficial effects on public health and equity, known as **co-benefits**, making climate change action a "win-win". Some health co-benefits of strategies to reduce greenhouse gas emissions from transportation include: decreases in obesity, cardiovascular disease, respiratory illness, osteoporosis, and

GUIDE 03

Taking Action on Climate Change for Health

BARHII

Climate Change and Health Equity

DEFINITIONS

Health Inequities
The unfair and avoidable differences in health status seen within and between populations and places.

Built Environment
Environments in which people live, work, and

Climate Change Will Not Affect All Communities in the Same Way

Whether through sea level rise, droughts, or heat waves, the populations most vulnerable to climate-related health impacts are the same communities that experience **health inequities**, the unjust and avoidable disparities in health outcomes. These include the elderly, children, communities of color, and those unable to afford food, quality shelter, fuels for cooling and transportation, or lacking alternatives to contaminated drinking water.

Mitigation Strategies Can Support Health Equity Efforts

ducing greenhouse gas (GHG) emissions is essential to reduce the
er climate change. Actions to mitigate further climate change can
uce health inequities. More than 60% of adults do not achieve the
mount of regular physical activity. The highest rates of physical
en among California's low-income households and communities
ve the least access to safe places to exercise and play. Rates of
ic diseases such as diabetes and heart disease are also highest
mmunities.[1]

ate change **mitigation** law, **Senate Bill 375**, requires regional
housing, and other land use planning to lower greenhouse gas
result, regional agencies are planning for **built environments** that
le and walkable with jobs, affordable housing, schools, and basic
close to one another and easily accessible by public transportation,
g residents to drive less. Placing jobs, enriched public schools,
od goods and services, such as grocery stores, with housing that
all income groups provides increased opportunities for physical
help decrease health inequities.

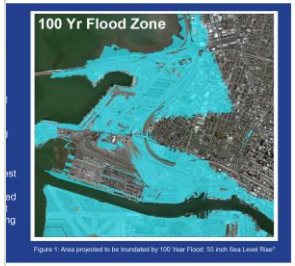


Figure 1: Area projected to be inundated by 100 Year Flood: 55 inch Sea Level Rise*

GUIDE 04

Taking Action on Climate Change for Health

BARHII

How Public Health can Address Climate Change

Greenhouse gas emissions from human activity are increasing the earth's temperature, resulting in extreme weather events that have serious health consequences. Vulnerable communities will likely have some of the greatest exposures to climate-related health impacts and the fewest resources to confront them.[1] This is a public health issue and public health professionals can play a key role in addressing it.

We Can Address Climate Change. We Can Impact Health.

The following are suggested actions public health staff can take to address climate change at work. We urge you to carry out some of these and encourage your leadership or staff to implement them so that your organization is doing its part to confront this threat to public health.

Research

- Complete internal needs assessments and community vulnerability assessments to gather baseline data.
- Map geographic areas for impacts over time.
- Partner with other agencies to monitor key data changes (i.e., weather, neighborhood, and health outcomes). Include health data and maps on County or City website for use by others.
- Work with relevant agencies in your jurisdiction to examine emissions related to your health department's purchasing policy, building energy use, and staff travel.

Education and Outreach

- Conduct trainings on the health impacts of climate change for department staff, medical professionals, staff in related departments, and community-based organizations.
- Post climate change web links and information to your department's website, professional network list-serves and email tags.
- Use local data to identify opportunities to address climate change.
- Empower all staff working with the community to integrate messages into existing prevention programs about the health co-benefits of addressing climate change. For example, did you know global warming affects pollen release, which can lead to an increase in asthma and other respiratory problems?

Spotlight on Santa Clara County

As part of its CDC funded Communities Putting Prevention to Work Obesity Prevention Initiative, the Santa Clara County Public Health Department (SCCPHD) worked with jurisdictions and community organizations on environmental strategies to increase the use of active transportation and the consumption of local fresh food. Some of the strategies were: creation of a city Community Supported Agriculture (CSA) project, expansion of the acceptance of Cal Fresh EBT cards at farmers' markets, adoption of Safe Routes to School policies in school districts and cities, creation of a bilingual bike map, development of zoning standards to implement active transportation policies in a city general plan, and amendment of a city code to reduce parking requirements. SCCPHD also embarked on a new collaboration with the Office of Planning to create a Health Element, which will be the first of its kind in the County and will help shape other elements of the General Plan.

GUIDE 05

Taking Action on Climate Change for Health

BARHII

Getting Involved in Climate Change Action Planning

Public health employees have an important role to play in shaping policies and plans designed to address climate change. As experts on the health of our communities and on the needs of vulnerable communities, public health staff can ensure that these needs are addressed while we prepare to adapt to a changing climate. Policy work can include collaborating with local or regional planning agencies, writing letters or providing testimony to advocate for healthy policies, or participating on boards or commissions that address climate change issues.

Opportunities abound for raising health equity concerns in planning processes to address climate change. California's Senate Bill 375 requires each region to develop a Sustainable Communities Strategy (SCS) – an integrated transportation and land-use strategy to accommodate future population growth and reduce greenhouse gas emissions from cars and light trucks. The participation of public health staff in this recent, regional process helped create a more equitable and health-focused plan for the Bay Area.[2]

There are also opportunities to get involved at the local level as municipalities use the SCS guidance to plan for their future housing and land use development via agencies that are accountable to local boards of supervisors, such as:

- City and county transportation commissions
- County congestion management agencies (CMAs)
- Transit agencies
- Sales tax authorities

Cities across California are also adopting voluntary plans to reduce their greenhouse gas (GHG) emissions. These include amendments to General Plans, comprehensive sustainability plans, and Climate Action Plans, among others.[3]

In all these planning efforts, public health can educate planners, engineers, and policy-makers about the links between active transportation, housing, and health outcomes and ensure that the needs of the most vulnerable and least resourced communities are addressed. BARHII created a set of downloadable resources that can assist public health staff to participate in planning efforts: (1) *The Healthy Planning Guide* and (2) *Partners in Public Health*.[4]

Spotlight on Alameda County

The Adapting to Rising Tides (ART) project is a collaborative planning project evaluating how Bay Area communities can improve their resilience to sea level rise and storm events. The project was initiated in 2010 by the San Francisco Bay Conservation and Development Commission (BCDC) with NOAA Coastal Services Center. This cross-jurisdictional project is focused on a Bay Area sub-region, which includes a portion of the Alameda County shoreline from Emeryville to Union City. Alameda County Public Health Department was invited to participate from the inception. Public Health staff attended planning meetings / strategy sessions and helped to ensure a public health equity focus was included. Public Health staff provided consultation to BCDC staff in scoping of the project to ensure hazardous materials, community land use, and vulnerable population issues were included and edited community land use and equity reports. In addition, Public Health staff facilitated linkages to County and community-based organization staff and provided data.

www.barhii.org

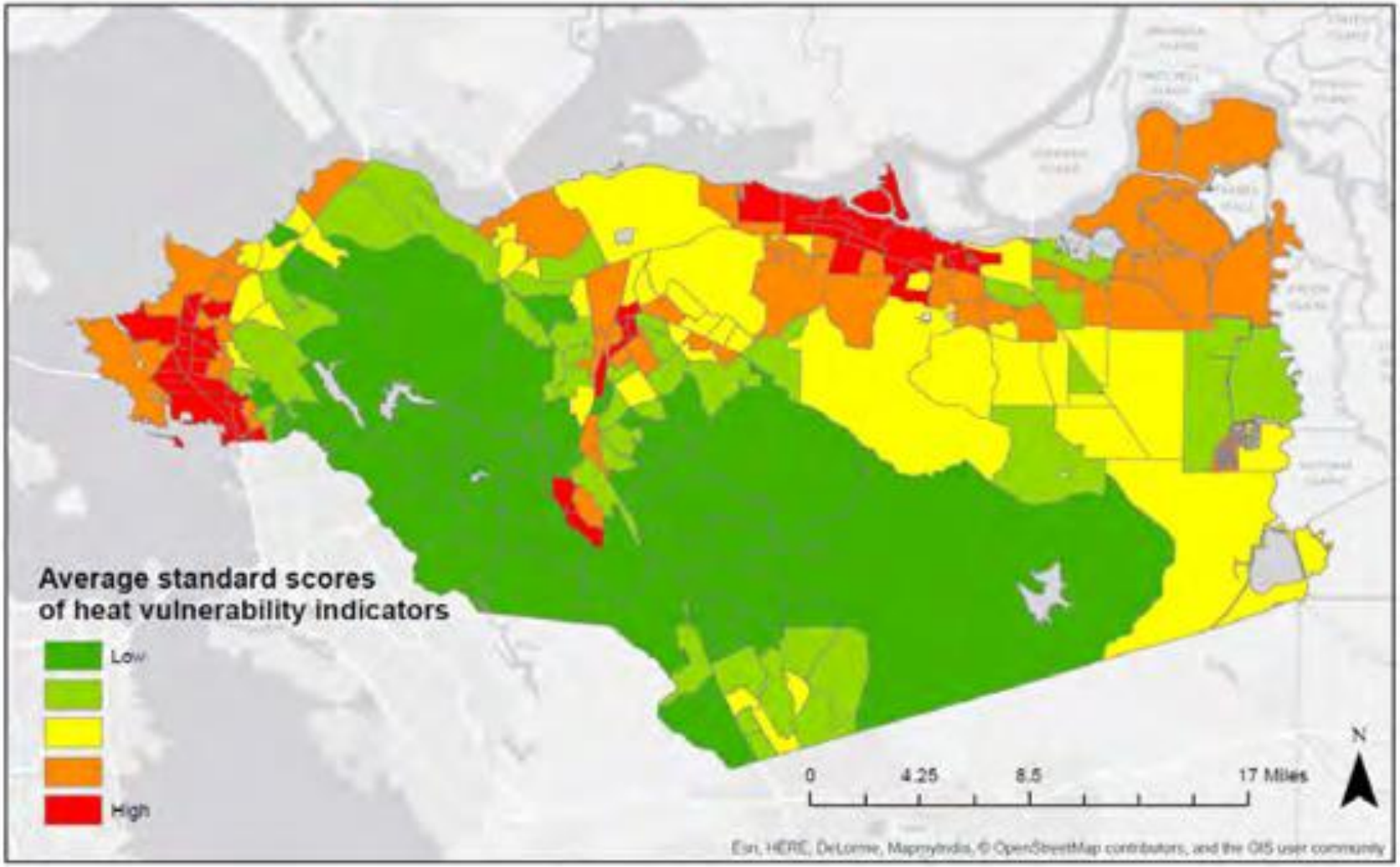
2015

Climate Change Vulnerability in Contra Costa County: A Focus on Heat

Category	Vulnerability Factor	Data Source
Biological	Percent of population under 5	US Census, 2007–2011 American Community Survey
	Percent of population over 65	US Census, 2007–2011 American Community Survey
Social & Economic	Percent of population below 200% of the Federal Poverty Line	US Census, 2007–2011 American Community Survey
	Percent of population living alone	US Census, 2007–2011 American Community Survey
	Percent of population African-American	US Census, 2007–2011 American Community Survey
	Percent of households linguistically isolated	US Census, 2007–2011 American Community Survey

Category	Vulnerability Factor	Data Source
Medical	Asthma hospitalization and ED visit rate	California Office of Statewide Health Planning and Development, 2009–2011
Living Conditions	Percent of households without access to a vehicle	US Census, 2007–2011 American Community Survey
	Average daily transit pickups	Metropolitan Transportation Commission, 2009
	Percent treeless area	US Department of the Interior, National Land Cover Database, 2001
	Percent impervious surface	US Department of the Interior, National Land Cover Database, 2006
	Percent households without air conditioning	CA Department of Public Health, 2009 California Energy Survey, provided by Pacific Institute
	Portion of daily maximum 8 hour ozone concentration over federal standard	CalEnviroScreen analysis of CA Air Resources Board, 2007–2009

Figure 21: Average Z-Scores Of Heat Vulnerability Indicators By Census Tract, Showing An Equal Number Of Census Tracts In Each Category.



	Biological		Socio-Economic				Medical	Living Conditions						
City or Place Name	Under 5	Over 65	Poverty	Living Alone	African American Race	Linguistic Isolation	Asthma	Access to Car	Public Transit	Treeless Area	Impervious Surfaces	Air Conditioning	Ozone	Average Standard Score
North Richmond	Medium	Low	High	Low	High	High	High	High	Low	High	High	High	Low	High
San Pablo	High	Low	High	Low	Medium	High	Medium	High	Low	High	High	High	Low	↑
Richmond	High	Low	High	Medium	High	High	High	Medium	Low	Medium	Medium	High	Low	
Bay Point	High	Low	High	Low	Medium	High	High	Medium	Low	High	Medium	Low	Medium	
Pittsburg	High	Low	High	Low	Medium	Medium	High	Medium	Low	High	Medium	Low	Medium	
Bethel Island	Low	High	High	High	Low	Low	Medium	Medium	High	High	Low	Low	High	
Antioch	High	Low	High	Low	Medium	Medium	High	Medium	Low	High	Medium	Low	High	
Concord	High	Low	Medium	Medium	Low	Medium	Medium	Medium	Medium	High	Medium	Low	Medium	
El Cerrito	High	Medium	Medium	Medium	Low	Medium	Low	Medium	Low	Medium	High	High	Low	
Oakley	High	Low	Medium	Low	Low	Medium	Medium	Low	High	High	Low	Low	High	
Walnut Creek	Medium	High	Low	High	Low	Medium	Low	Medium	High	Medium	Medium	Low	Low	
Brentwood	High	Low	Medium	Low	Low	Low	Medium	Low	Medium	High	Medium	Low	High	
Pleasant Hill	Medium	Medium	Medium	Medium	Low	Medium	Low	Medium	Medium	Medium	Medium	Medium	Low	
Pinole	Medium	Medium	Medium	Low	Medium	Medium	Medium	Medium	Low	Medium	Medium	High	Low	
San Ramon	High	Low	Low	Low	Low	Medium	Low	Low	Medium	High	Medium	Low	Medium	
Martinez	Medium	Low	Medium	Medium	Low	Low	Medium	Low	Medium	Medium	Medium	Medium	Low	
Hercules	Medium	Low	Low	Low	Medium	Medium	Medium	Low	Low	Medium	Medium	Medium	Low	
Clayton	Medium	Medium	Low	Low	Low	Low	Low	Low	High	High	Medium	Low	Medium	
Danville	Medium	Medium	Low	Low	Low	Low	Low	Low	High	Medium	Low	Low	Medium	
Moraga	Medium	Medium	Low	Low	Low	Low	Low	Low	High	Medium	Low	Medium	Low	
Orinda	High	Medium	Low	Low	Low	Low	Low	Low	High	Low	Low	Medium	Low	
Lafayette	Medium	Medium	Low	Low	Low	Low	Low	Low	High	Low	Low	Low	Low	Low

Bay Area Climate & Energy Resilience Project

- Regional Needs Assessment (Kresge/JPC)
- Health Gap: Resources vs. Needs
- Bringing PEOPLE Into Regional Climate Adaptation Planning

San Francisco Chronicle

THURSDAY, JULY 27, 2006

Bay Area's hottest

JULY 16	JULY 17	JULY 18	JULY 19	JULY 20	JULY 21	JULY 22	JULY 23	JULY 24	JULY 25	JULY 26
105° BRENTWOOD	106° FAIRFIELD	101° LIVERMORE	102° VACAVILLE	106° VACAVILLE	111° VACAVILLE	113° MORGAN HILL	116° DANVILLE	111° DANVILLE	109° LIVERMORE	103° VACAVILLE

THAT WAS THE WAVE THAT WAS

Bay Area's string of hot days is longest on record — odd weather patterns blamed

By Glen Martin
CHRONICLE ENVIRONMENT WRITER

The Great Heat Wave of 2006 was not just an epic meteorological event — it was an epochal one, unprecedented in the north state's weather annals, meteorologists agree.

It has been hotter for longer than ever before, and the weather patterns that caused the scorching temperatures were positively freakish. The region's last significant hot spell — in 1972 — lasted two days, and never in the past has the Bay Area suffered through as many consecutive days of temperatures above 110.

"We've had several one-day wonders over the years," said consulting meteorologist Mike Pechner in Cordelia, "but nothing of this extent and duration. It has been truly extraordinary.

"From an historical perspective, what happened in the nine Bay Area counties was particularly noteworthy. We didn't set many all-time temperature records in the Bay Area, but we did set records for the number of consecutive days with temperatures above 110."

Pechner said there was no previous record of Bay Area temps hitting 110 degrees for four consecutive days.

According to Pechner, who uses data from the National Weather Service and Bay Area Air Quality

SFGate.com

Online: For updates on California's heat wave and power grid status, go to sfgate.com/energy/

▸ WEATHER: Page A14

Doug Lilly, who delivers food to the elderly in Modesto for the Salvation Army, is among old workers in California checking on vulnerable people during the heat wave. See story on Page A14.

Climate Readiness Institute

- Academics + Practitioners
- Health 1 of 5 Focus Areas
- Bay Area Health Department Climate Working Group
- Funders Roundtable